

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference PC0033	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA416)	
International application No. PCT/IB 03/02952	International filing date (day/month/year) 24.07.2003	Priority date (day/month/year) 24.07.2002
International Patent Classification (IPC) or both national classification and IPC A23C3/07		
Applicant OFFICINE DI CARTIGLIANO S.P.A. et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 23.02.2004	Date of completion of this report 02.07.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Merkl, B Telephone No. +49 89 2399-2138 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/IB 03/02952**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-12 as originally filed

Claims, Numbers

1-18 as originally filed

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-18
	No: Claims	
Inventive step (IS)	Yes: Claims	1-18
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IB03/02952

Item V:

1. D1: WO 96 37112 A (CARTIGLIANO OFF SPA ;POLATO ANTONIO (IT)) 28 November 1996 (1996-11-28) cited in the application & EP 0 828 430 B 8 March 2000 (2000-03-08)
D2: DATABASE WPI Section Ch, Week 199415 Derwent Publications Ltd., London, GB; Class D13, AN 1994-125033 XP002258695 & SU 462 369 A (AGRIC ELECTRIF RES INST), 15 December 1993 (1993-12-15)
D3: DE 830 151 C (SIEMENS SCHUCKERTWERKE A G) 31 January 1952 (1952-01-31)
D4: US-A-4 534 282 (MARINOZA RENE A) 13 August 1985 (1985-08-13)
D5: GB-A-2 193 624 (APV INT LTD) 17 February 1988 (1988-02-17)
D6: US-A-5 935 632 (LARSEN PETER H) 10 August 1999 (1999-08-10)
D7: EP-A-0 497 099 (CARTIGLIANO OFF SPA) 5 August 1992 (1992-08-05)
D8: GB 619 495 A (RCA CORP) 10 March 1949 (1949-03-10)

2. None of the documents cited above discloses a method of treating liquids or a plant for the method wherein the liquid is separated into a fraction with higher fat content and into a fraction with lower fat content wherein the low-fat fraction is heat treated and wherein the high-fat fraction is treated with electromagnetic radiation and both fractions are combined.

In D1 the total liquid product is first heated and then treated with electromagnetic radiation.

In D2 the liquid is separated into high-fat fraction and low-fat fraction. The high-fat fraction is treated with UV radiation and the low-fat fraction with IR radiation.

D3 discloses a method wherein only part of the liquid is treated with radiation.

D4 discloses a method wherein IR radiation is used for pasteurization and UV radiation is used for sterilization.

D5 discloses a method wherein slurry is pre-heated and then treated with radiation.

**INTERNATIONAL PRELIMINARY
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D6 discloses a method for the production of consumer milk wherein the milk is separated into a cream and a skim milk fraction, the cream fraction is treated at high temperature and the skim milk fraction is pasteurized and then both fractions are combined.

D7 discloses a method wherein biological and alimentary products are first heat treated and then treated with radiation.

In D8 milk is treated with a high frequency electrostatic field.

Therefore the requirements of novelty Art. 33(2) PCT are met.

3. The problem of the pending application was to provide a method and a plant for treating liquids such as milk in a cost-effective, complete and reliable manner with limited heat damage. D2 is regarded to represent the closest prior art. D2 differs from the pending application in that the treatment of the low-fat part is carried out by IR radiation. There was no hint in the prior art that the heat treatment step as defined in the pending claim 1 would solve the posed problem as D2 does not contemplate any heat treatment.

Therefore the requirements of inventive step (Art. 33(3) PCT) are met.